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SR-45 Advanced

Soilmec rigs are self-mounting, easily transportable and designed to giving the best drilling solutions. The hydraulic drilling rig **SR-45** has been specially designed for suiting the following applications:

- **LDP** cased bore piles with casing driven directly by rotary head or optionally by casing oscillator powered by the base carrier itself;
- **LDP** deep uncased bored piles stabilized by drilling fluid or dry hole;
- **LHR** (Low Head Room) – large diameter bored piles;
- **CFA** (Continuous Flight Auger) piles by means of long auger string;
- **DP** (Displacement Piles) / **TCT** (traction compacting tool);
- **TJ** (Turbojet®) / **TTJ** (Twin Shaft Turbojet) - soil consolidation.

The **SR-45** is equipped with the DRILLING MATE SYSTEM (DMS) on 12' touch screen for monitoring and control of the rig performances and operating parameters.

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Technical Data

Technical data

Diesel engine T3/T4	kW	201/201
Weight	t	37-38
Main winch	kN	165

Min. transport weight	t	35
Max torque	kNm	185
CCS - Crowd cylinder system pull up/down	kN	207/140
WCS - Crowd winch system pull up/down	kN	240/240

LDP - LARGE DIAMETER PILE

Max diameter (LDP)	mm	3000
Max depth (LDP)	m	65

CFA - CONTINUOUS FLIGHT AUGER

Max diameter (CFA)	mm	1000
Max depth (CFA)	m	24

3000mm = 9.842 ft

DP - DISPLACEMENT PILE

Max diameter (DP)	mm	350
Max TCT diameter (DP)	mm	400
Max pile depth (DP)	m	23

TJ - TURBOJET

Max diameter (TJ)	mm	1000
Max depth (TJ)	m	23

LHR - LOW HEAD ROOM

Max diameter (LHR)	mm	3000
Max depth (LHR)	m	19,3
Modular mast height range (LHR)	m	8,5/9,8



(/media/immagini/185_z_SR-45 WCS - Iso.png)



(/media/immagini/186_z_SR-45 WCS -

Fronte.png)



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SR-45 ADV

Related Technologies

- > Displacement Piles
- > Turbojet®
- > Large Diameter Piles
- > Continuous Flight Auger

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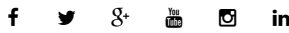
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Hydraulic Rotary Rig

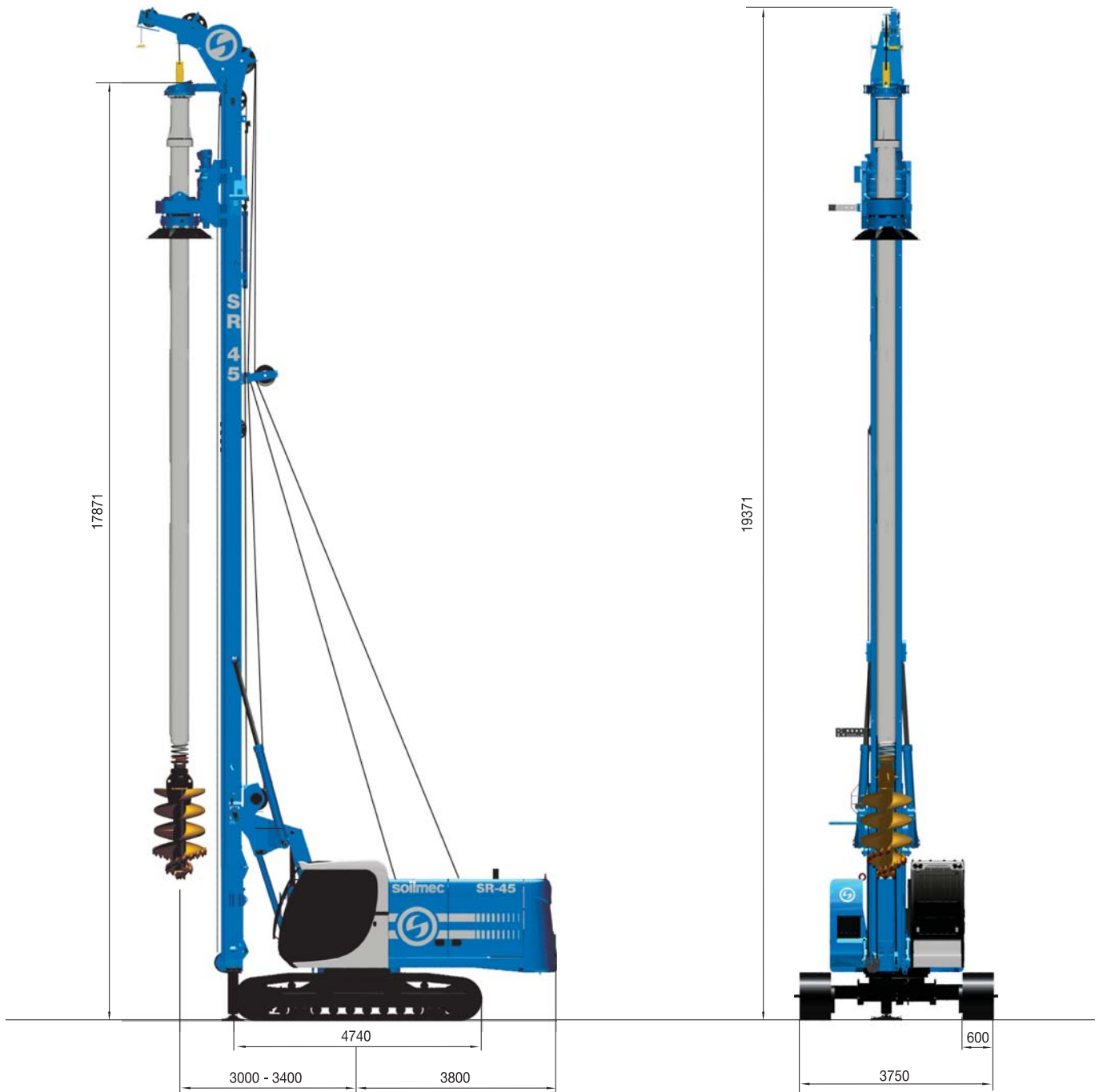
SR-45



soilmec 
Drilling and Foundation Equipment

SR-45 Hydraulic Rotary Rig

LDP APPLICATIONS



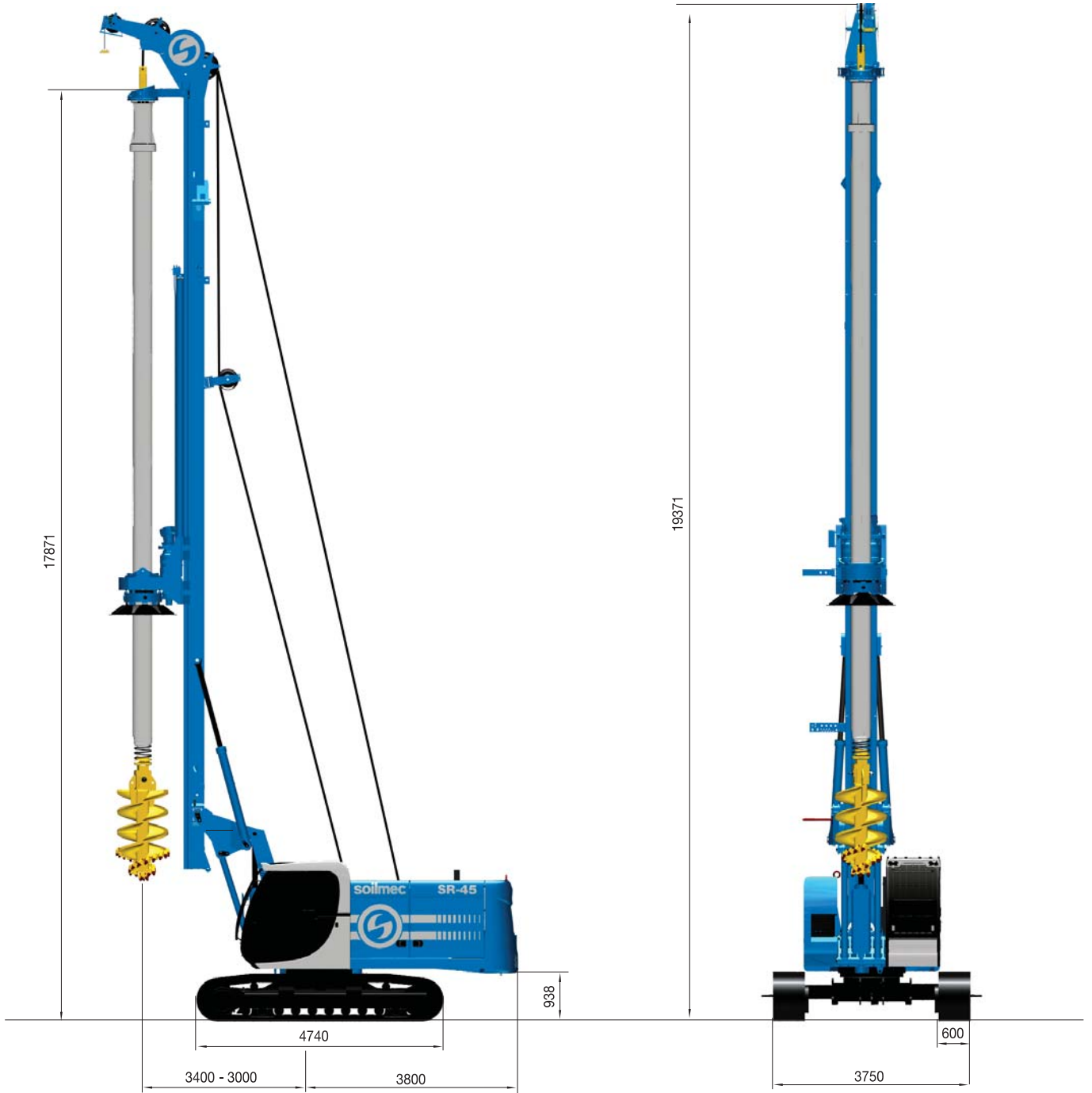
LDP - Large Diameter Piles - WCS version

Operating weight c/w 4x9 kelly bar	42000 kg	92593 lb
Max pile diameter (along mast)	1300 mm	51.18 in
Max pile diameter w/o lower mast section, tool below mast	2000 mm	78.74 in
Max pile depth - friction kelly	63- 65,5** m	207- 215** ft
Max pile depth - locking kelly	49- 51,8* m	160-170* ft

* c/w non self-mounting 4x14 kelly bar ** c/w non self-mounting 5x14 kelly bar

SR-45 Hydraulic Rotary Rig

LDP APPLICATIONS



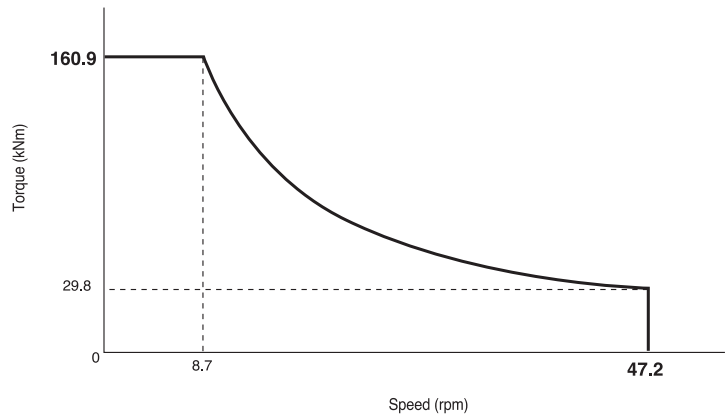
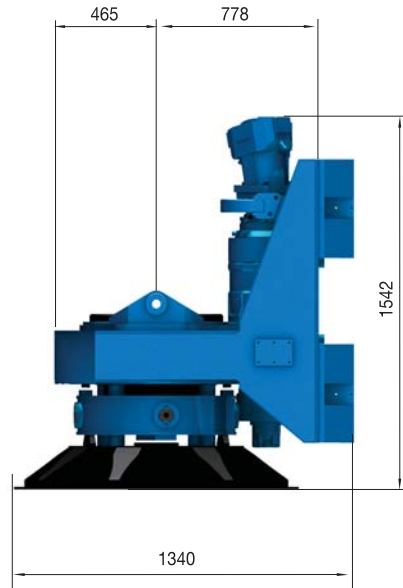
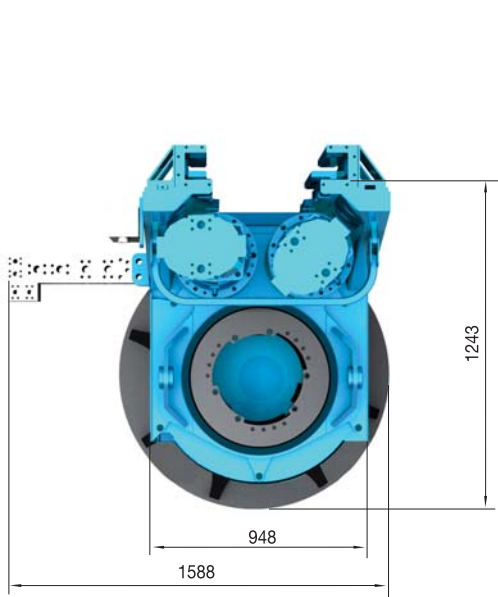
LDP - Large Diameter Piles - CCS version

Operating weight c/w 4x9 kelly bar	40500 kg	89286 lb
Max pile diameter (along mast)	1500 mm	59.06 in
Max pile diameter tool below mast	2000 mm	78.74 in
Max pile depth - friction kelly	58,5 - 65** m	192 - 213** ft
Max pile depth - locking kelly	47,5 - 50,5* m	156 - 166* ft

* c/w non self-mounting 4x14 kelly bar ** c/w non self-mounting 5x14 kelly bar

SR-45 Hydraulic Rotary Rig

ROTARY TABLE



Rotary drive	Single gear version	Single gear version
- Max torque (theoretical-restricted-intermittent)	185 kNm	136447 lbf*ft
- Rated torque (theoretical)	161 kNm	118746 lbf*ft
- Speed of rotation (max)	47 rpm	47 rpm
- Spin-off speed	146 rpm	146 rpm
- Weight c/w cradle	2715 kg	5985 lb

SR-45 Hydraulic Rotary Rig

TECHNICAL DATA SHEET

CCS - Cylinder crowd system		
- Crowd force pull (down/up)	140 / 207 kN	31500 / 46500 lbf
- Stroke	5100 mm	201 in
- Speed (down/up)	17,4 m/min	57 ft/min
- Fast speed (down/up)	18,8 m/min	62 ft/min
WCS - Winch crowd system		
- Crowd force pull (down/up)	240 / 240 kN	54000 / 54000 lbf
- Stroke	14500 mm	740 in
- Speed (down/up)	28 m/min	92 ft/min
- Fast speed (down/up)	28 m/min	92 ft/min
Main winch SW320	controlled descent	<i>controlled descent</i>
- Line pull (1st layer)	165 kN	37100 lbf
- Rope diameter	24 mm	1.26 in/482.28 ft
- Line speed (max.)	78 m/min	256 ft/min
Auxiliary winch SW130	controlled descent	<i>controlled descent</i>
- Line pull (1st layer)	65 kN	29225 lbf
- Rope diameter	18 mm	0.87 in
- Line speed (max.)	81 m/min	230 ft/min
Engine	CUMMINS QSB 6.7	<i>CUMMINS QSB 6.7</i>
- Rated output ISO 3046-I	201 kW @ 2000 rpm	269 HP @ 2000 rpm
- Engine conforms to Exhaust emission Standard	EU stage III B, US EPA Tier 4i	<i>EU stage III B, US EPA Tier 4i</i>
- Diesel tank capacity	380 l	100 US gal
Hydraulic system		
- Hydraulic pressure set	30,5 Mpa	4420 psi
- Flow rates (main circuits)	2x 214 l/min	2x 57 US gal/min
- Hydraulic oil tank capacity	450 l	119 US gal
Undercarriage	variable gauge, telescoping side frames	<i>variable gauge, telescoping sides frames</i>
- Overall width of crawlers retracted/extended	2550 / 3750 mm	100 / 147 in
- Width of triple grouser track shoes	600 mm	24 in
- Overall length of crawlers	4740 mm	187 in
- Traction force effective/nominal	386 kN	68800 lbf
- Travel speed	2 km/h	1.2 mph
Mast inclination (Backward/ Forward/Lateral)	5/4/3°	<i>5/4/3°</i>

STANDARD EQUIPMENT

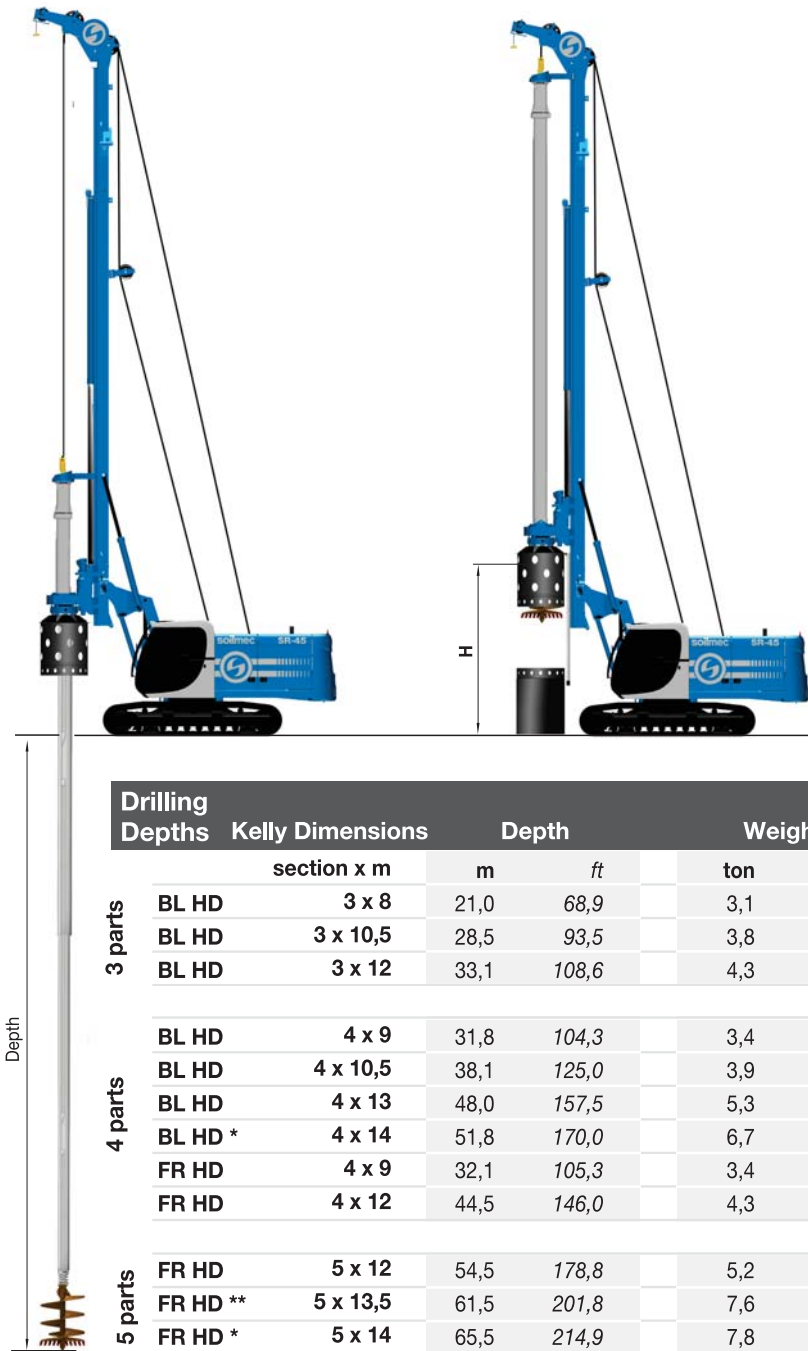
- Main and auxiliary winch controlled descent type with special grooving
- Hoist limit switch on main rope
- Swivel for main rope
- Service rope parking point
- DMS system electronic monitoring and operator interface system
- Mast inclination measurement on X/Y axes (digital/analog display)
- Automatic vertical mast alignment
- Depth measuring device on main winch
- Speed measuring device on rotary
- Crowd pressure setting
- Oscillator attachment brackets
- Central lubrication system
- Emergency mode of operation for engine
- Engine diagnostic system
- Diagnostic panel for hydraulic functions
- Transport securing lugs on crawler units
- On board lighting set
- On board tool set
- Electric refuelling pump
- High comfort operator's cab
- Protective roof grate (FOPS compliant)
- Air conditioning system
- Radio and CD player
- Videocamera set

OPTIONAL EQUIPMENT

- Biodegradable oils
- Pressurized air conditioning system
- Freefall auxiliary winch
- Swivel for auxiliary rope
- Double roller auger cleaner
- VTH-1 vibrator
- Main winch load cell
- Additional counterweight for mast lattice boom extension application

SR-45 Hydraulic Rotary Rig

KELLY DRILLING SYSTEM



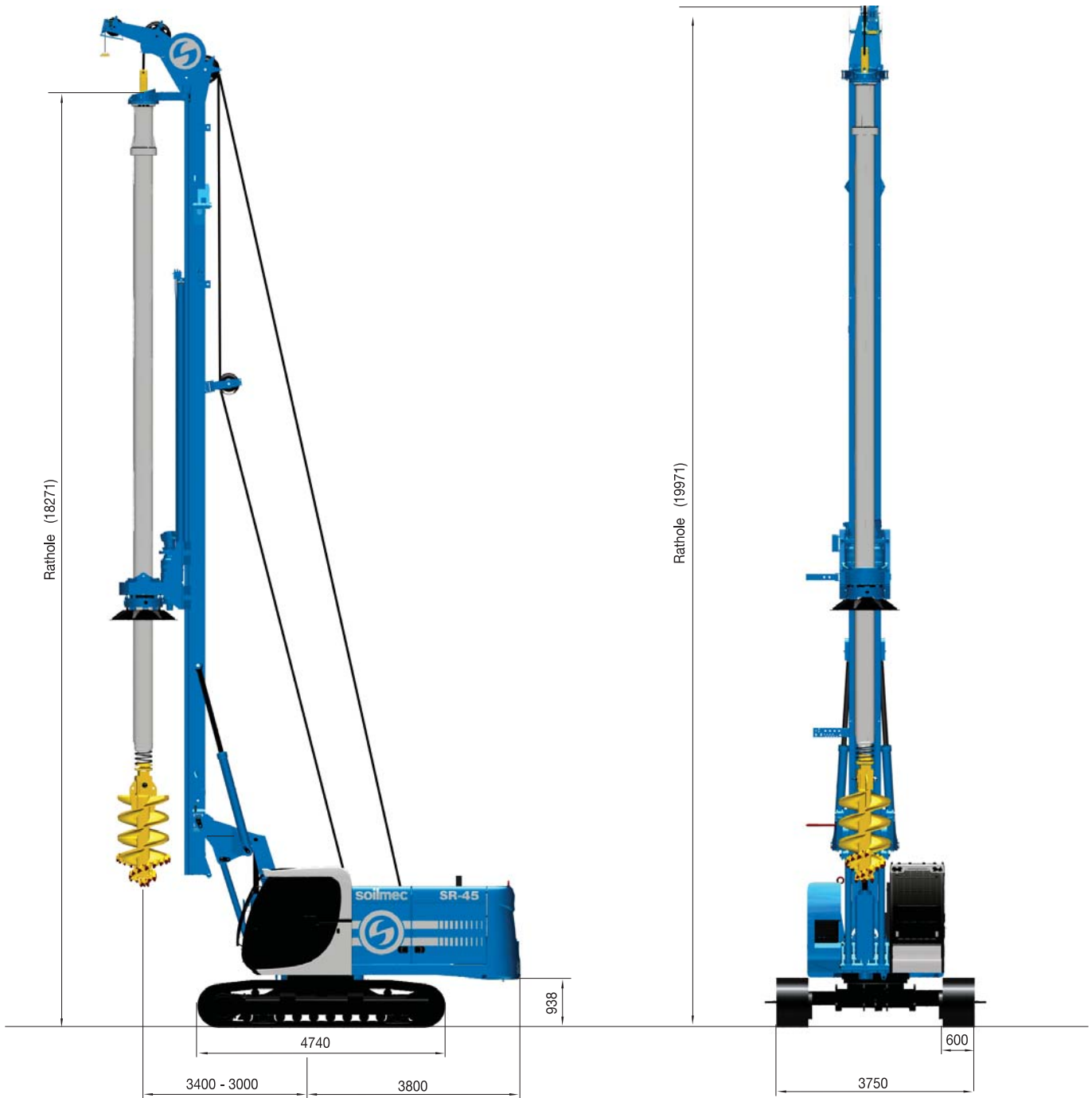
Drilling Depths	Kelly Dimensions section x m	Depth		Weight		CCS SYSTEM		WCS SYSTEM	
		m	ft	ton	ton	H		H	
						m	ft	m	ft
3 parts	BL HD 3 x 8	21,0	68,9	3,1	3.1	7,9	25.9	8,8	28.9
	BL HD 3 x 10,5	28,5	93,5	3,8	3.9	6,3	20.7	6,3	20.7
	BL HD 3 x 12	33,1	108,6	4,3	4.4	4,8	15.7	4,8	15.7
4 parts	BL HD 4 x 9	31,8	104,3	3,4	3.5	7,8	25.6	7,8	25.6
	BL HD 4 x 10,5	38,1	125,0	3,9	4.0	6,3	20.7	6,3	20.7
	BL HD 4 x 13	48,0	157,5	5,3	5.4	3,9	12.8	3,9	12.8
	BL HD * 4 x 14	51,8	170,0	6,7	6.8	2,9	9.5	2,9	9.5
	FR HD 4 x 9	32,1	105,3	3,4	3.5	7,9	25.9	7,9	25.9
	FR HD 4 x 12	44,5	146,0	4,3	4.4	5,0	16.4	5,0	16.4
5 parts	FR HD 5 x 12	54,5	178,8	5,2	5.3	4,9	16.1	4,9	16.1
	FR HD ** 5 x 13,5	61,5	201,8	7,6	7.7	5,5	18	5,5	18
	FR HD * 5 x 14	65,5	214,9	7,8	7.9	3,0	9.8	3,0	9.8

* Non self-mountable kelly bar

** Rathole dedicated kelly bar

SR-45 Hydraulic Rotary Rig

LDP APPLICATIONS Ratholders version



LDP - Large Diameter Piles - CCS Ratholders version

Operating weight c/w 5x13,5 kelly bar	42000 kg	92593 lb
Max pile diameter (along mast)	1300 mm	51.18 in
Max pile diameter w/o lower mast section, tool below mast	2000 mm	78.74 in
Max pile depth - locking kelly (reduct torque)	61,5 m	201.77 ft

SR-45 Hydraulic Rotary Rig

CFA APPLICATIONS Quick conversion kit



CFA - Continuous Flight Auger - Quick conversion kit		
Max pile diameter	900 mm	35.43 in
Max pile depth c/w 7 m auger extension	21 m	68.90 ft
Max pile depth with auger cleaner c/w 7 m auger extension	20 m	65.62 ft
Extraction force	394 kN	88571 lbf
Crowd force on auger	138 kN	31022 lbf

SR-45 Hydraulic Rotary Rig CFA APPLICATIONS 4° line pull

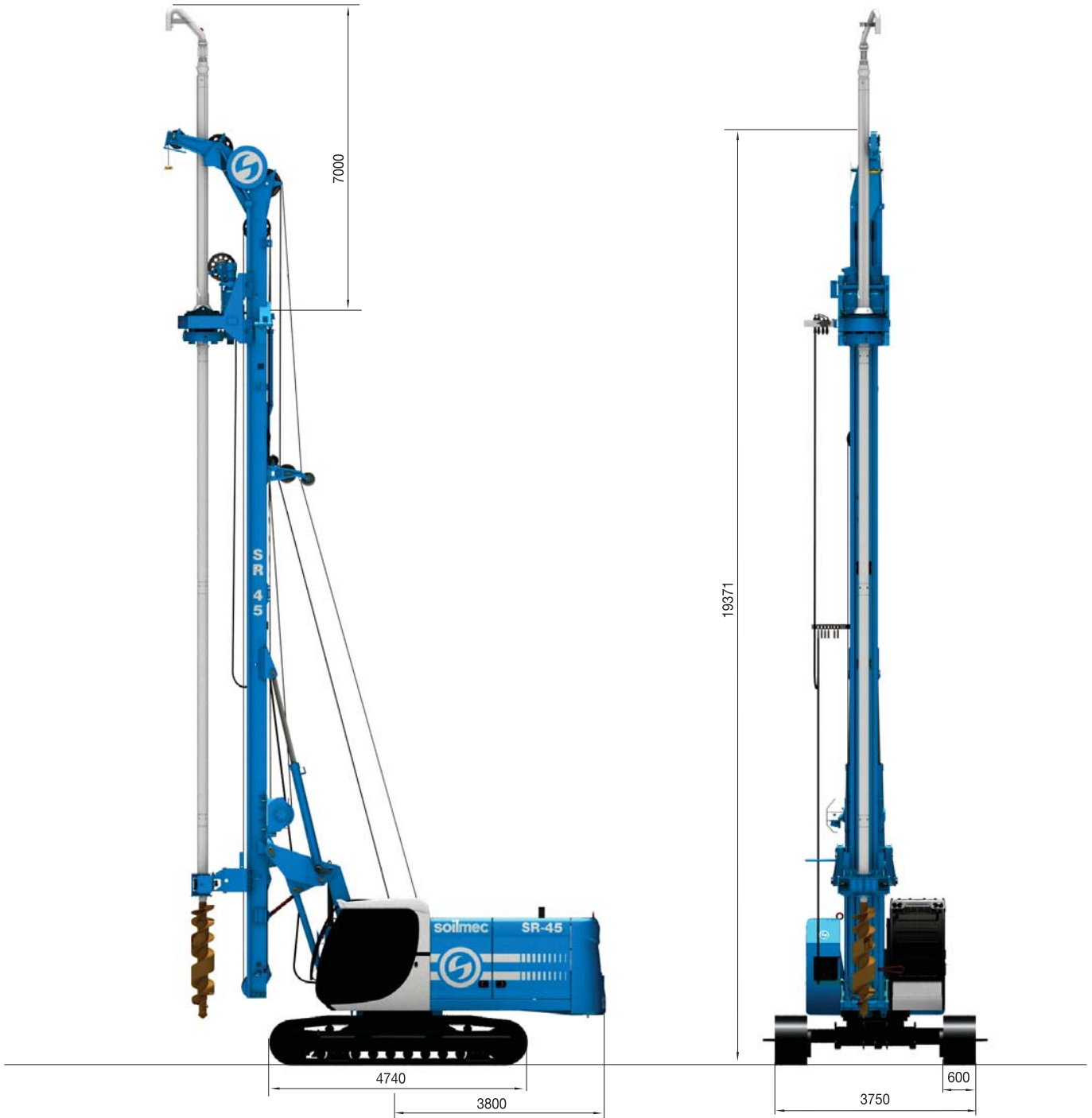


CFA - Continuous Flight Auger - 4° linepull

Max pile diameter	900 mm	35.43 in
Max pile depth c/w 6 m auger extension	21,5 m	70.54 ft
Max pile depth with auger cleaner c/w 6 m auger extension	20,5 m	67.26 ft
Extraction force	480 kN	107904 lbf
Crowd force on auger (opt.)	100 kN	22480 lbf

SR-45 Hydraulic Rotary Rig

DP APPLICATIONS Quick conversion kit



DP - Displacement Piles - Quick conversion kit

Max DP pile diameter	350 mm	14 in
Max TCT pile diameter	350 mm	14 in
Max pile depth c/w 7 m auger extension	19,7 m	64.63 ft
Max lattice boom extension length	12 m	39.37 ft
Max depth c/w lattice boom mast extension	22,7 m	74.47 ft

SR-45 Hydraulic Rotary Rig

TJ APPLICATIONS Quick conversion kit

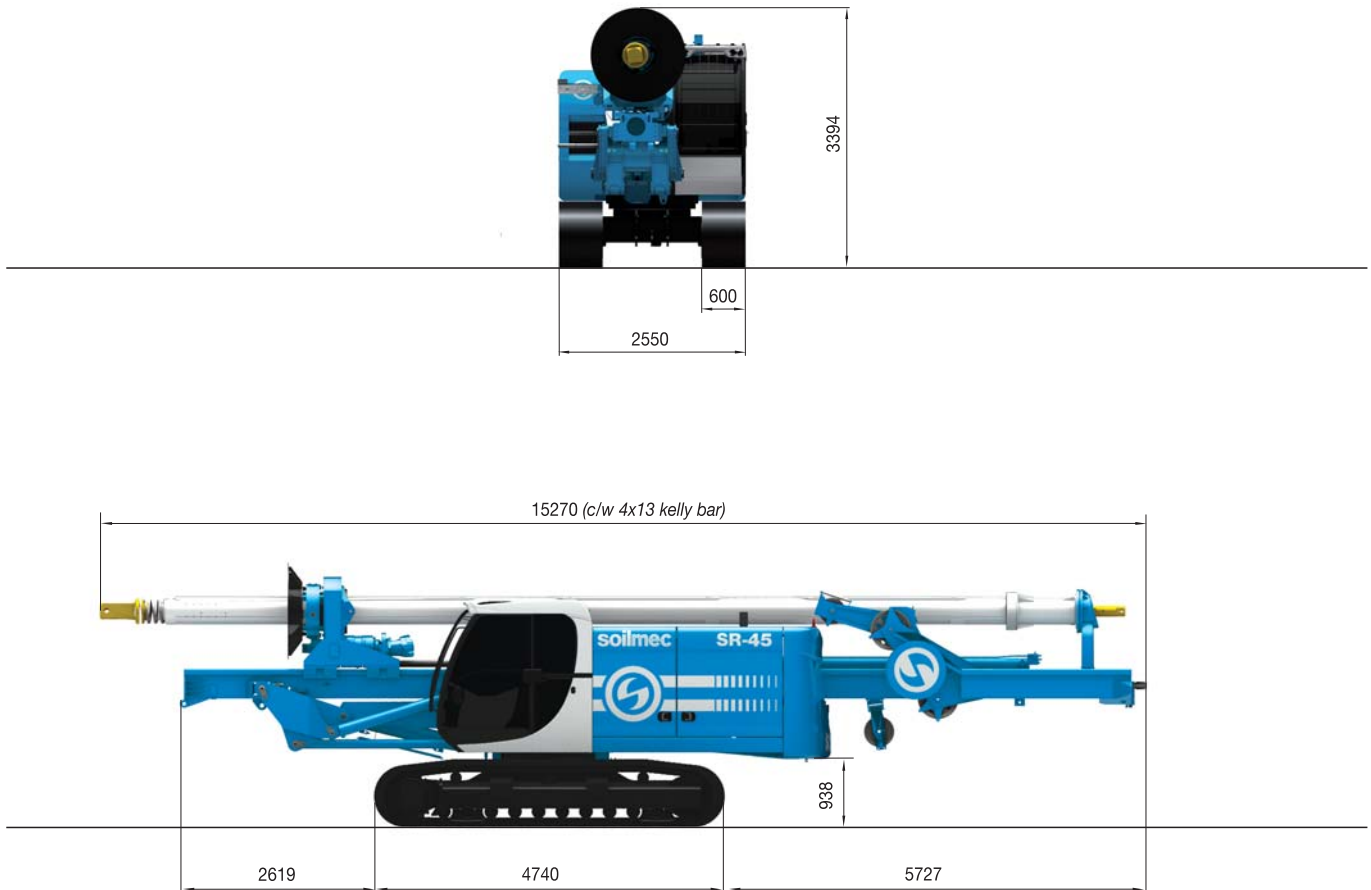


TJ - Turbojet® - Quick conversion kit

Max treatment diameter	900 mm	35.43 in
Max pile depth c/w 7 m auger extension	20,4 m	66.93 ft
Max lattice boom extension length	12 m	39.37 ft
Max depth c/w lattice boom mast extension	23,4 m	76.77 ft

SR-45 Hydraulic Rotary Rig

TRANSPORT, DIMENSIONS AND WEIGHTS



Transport configuration		
Width	2550 mm	100 in
Height	3400 mm	134 in
Length - kelly <12 m	13050 mm	514 in
Weight - CCS Version c/w 4x9 kelly bar	40500 kg	89286 lb
Weight - WCS Version c/w 4x9 kelly bar	42000 kg	92593 lb

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